

Amendments to the Claims

This Listing of Claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) An electrolysis cell comprising:
a plurality of carbon anodes, each of the plurality having top, bottom and side surfaces, operating in molten electrolyte in an aluminum electrolysis cell, ~~where gas bubbles are generated at the anode surfaces, and where alumina particles are added to the top of the molten electrolyte, wherein~~ at least one of the carbon anodes have ~~has~~ at least two inward non-continuous slots passing through part of the anode along the longitudinal axis of the carbon anode and also passing through only one of the side front surfaces of the anode, where the height of the slots is from about 45% to 80% of the anode thickness and the one slotted side front surfaces ~~are is~~ disposed toward the center of the electrolysis cells ~~so that generated gas bubbles are directed toward the alumina particles.~~

2-3. (Cancelled)

4. (Original) The electrolysis cell of claim 1, wherein the slot height is from about 60% to 75% of the anode thickness.

5. (Original) The electrolysis cell of claim 1, wherein the slot width is from about 9 mm to about 16 mm.

6-10. (Cancelled)

11. (Original) The electrolysis cell of claim 1, where the slots have a roof portion that is parallel to the longitudinal axis of the carbon anode.

12. (Original) The electrolysis cell of claim 1, where the slots have a roof portion with an upward angle of from about 1° to about 5°.

13. (New) A carbon anode for use in a metal electrolysis cell, the carbon anode comprising:

a carbon block comprising:

a top portion adapted to interconnect to overhead supports of an aluminum electrolysis cell;

a bottom portion adapted for submersion in an electrolyte bath of an aluminum electrolysis cell; and

at least two non-continuous slots passing through one side portion of the carbon block, wherein the slots pass through a part of the bottom portion of the carbon block, and wherein the slots are adapted to direct gases evolved during operation of a metal electrolysis cell toward a centerline of the metal electrolysis cell.

14. (New) The carbon anode of Claim 13, wherein the non-continuous slots have a height of from about 45% to 80% of the thickness of the carbon block.

15. (New) The carbon anode of Claim 13, wherein the non-continuous slots have a height of from about 60% to 75% of the thickness of the carbon block.

16. (New) The carbon anode of Claim 13, wherein the non-continuous slots have a width of from about 9 mm to about 16 mm.

17. (New) The carbon anode of Claim 13, wherein the non-continuous slots have a width of from about 9 mm to about 12 mm.

18. (New) The carbon anode of Claim 13, wherein the non-continuous slots have a length that extends a majority of the length of the bottom portion of the carbon block.

19. (New) The carbon anode of Claim 18, wherein the non-continuous slots have a length that extends less than the full length of the bottom portion of the carbon block.

20. (New) The carbon anode of Claim 13, wherein the slots comprise a roof portion, wherein the roof portion is parallel to the longitudinal access of the carbon anode.

21. (New) The carbon anode of Claim 13, wherein the slots comprise a roof portion, wherein the roof is angled relative to the longitudinal access of the carbon anode.

22. (New) The carbon anode of Claim 19, wherein the roof is angled from 1° to 5° relative to the longitudinal access of the carbon anode.

23. (New) The carbon anode of Claim 13, wherein three side portions of the carbon block are free of the non-continuous slots.

24. (New) A method for producing aluminum in an aluminum electrolysis cell, the method comprising:

operating the aluminum electrolysis cell at a temperature of between about 900°C and 1000°C, the aluminum electrolysis cell containing a molten bath;

generating gas bubbles from the molten bath during the operating step; and

directing the gas bubbles toward a centerline of the aluminum electrolysis cell via non-continuous slots located in a carbon anode of the aluminum electrolysis cell.

25. (New) The method of Claim 24, wherein the directing step comprises:

flowing the gas bubbles from an underneath portion of the carbon anode through the non-continuous slots.

26. (New) The method of Claim 25, wherein the flowing step comprises turbulently flowing the gas bubbles, thereby increasing mixing of the molten bath.

27. (New) The method of Claim 24, further comprising:

contacting particulate alumina with the gas bubbles, thereby restricting agglomeration of incoming alumina particles.